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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,421	01/31/2002	Tetsuo Shibuya	YOR920010126US2	6845
21254 7590 11/16/2007 MCGINN INTELLECTUAL PROPERTY LAW GROUP, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817			EXAMINER LY, CHEYNE D	
			ART UNIT 2168	PAPER NUMBER
			MAIL DATE 11/16/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/059,421

Applicant(s)

SHIBUYA ET AL.

Examiner

Cheyne D. Ly

Art Unit

2168

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.
2. The cancellation of claims 1-11, 13-23, and 25-30, filed October 15, 2007, has been entered.
3. Claims 12 and 24 are examined on the merits.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. **Claims 12 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ganguly et al. (1996) (Ganguly hereafter) in view of Floratos et al. (1999) (Floratos hereafter).**

7. In regard to claims 12 and 24, Ganguly describes:

- a. An input device for inputting a genomic DNA sequence (page 200, section 2, The Data Model, and Figure 1);
- b. Translates an open reading frame (ORF) of said DNA sequence into an amino acid translation (page 203, section 4.2, especially, "Locate open reading frames", and page 206 in its entirety).

8. However, Ganguly does not describe the pattern database comprising patterns of amino acids and "locates...a putative gene in said DNA sequence."

9. Floratos describes:

- c. A pattern database comprising patterns of amino acids (page 166, column 2, 3rd paragraph, e.g. SwissProt database);
- d. A processor which:
 - i. Locates in said amino acid translation occurrences of said patterns from said pattern database (page 165, column 2, Pattern Matching section); and
 - ii. Determines whether said open reading frame includes at least a part of a putative gene in said DNA sequence based on said occurrences of said patterns of amino acids located in said amino acid translation of said ORF (page 168, column 1, Searching section, e.g. analyze a not yet characterized ORF from the genome);
 - iii. wherein said processor identifies a match of a pattern from said pattern database in said amino acid translation (page 168, column 1, Search

section, e.g. all the proteins that match at least one of these three patterns are annotated as putative kinases), and

- iv. wherein said ORF is reported as a putative gene when the sum of weights corresponding to all patterns with matches in said amino acid translation exceeds a predetermined threshold (page 167, column 1, lines 17-41, e.g. consider together all the patterns of a particular backbone structure...the value of threshold).

10. Ganguly describes a “database system...will greatly enhance current sequence analysis efforts, by providing a framework for integrating currently existing algorithms” (page 200, lines 9-12). While, Floratos describes there were no computational tools powerful enough to handle the task of pattern discovery in data sets of the size of existing protein data bases (page 164, column 2, last paragraph). Therefore, one of ordinary skill in the art at the time of the invention would have been motivated by Ganguly to integrate said database system with the pattern database of Floratos to greatly enhance current sequence analysis efforts to handle the task of pattern discovery in data sets of the size of existing protein databases. Therefore, it would have been obvious to one of ordinary skill in the art to integrate the database system of Ganguly with the pattern database of Floratos to greatly enhance current sequence analysis efforts to handle the task of pattern discovery in data sets of the size of existing protein databases.

CONCLUSION

11. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the

Art Unit: 2168

USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

12. For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199. The USPTO's official fax number is 571-272-8300.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Dune Ly, whose telephone number is (571) 272-0716. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo, can be reached on (571) 272-3642.

C. Dune Ly
Primary Examiner
11/13/07

